

Section 15

ASSESSMENT OF GULF OF ALASKA ATKA MACKEREL EXECUTIVE SUMMARY

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15.1 Introduction

Gulf of Alaska (GOA) Atka mackerel has been moved to a biennial stock assessment schedule to coincide with new survey data. A full assessment was presented in 2005 which included data from the 2005 GOA bottom trawl survey. On alternate (even) years we will present an executive summary with updated catch, last year's key assessment parameters, any significant new information available in the interim, and projections for this year.

Gulf of Alaska Atka mackerel have been managed under Tier 6 specifications since 1996 due to lack of reliable estimates of current biomass. Last year, the 2005 assessment presented Tier 5 calculations of ABC and OFL (based on 2005 survey biomass estimates) for consideration. The Plan Team and SSC agreed with the authors that there is not a reliable estimate of Atka mackerel biomass and recommended continuing management under Tier 6. The Council set Gulfwide 2006 OFL, ABC, and TAC for Atka mackerel at 6,200 mt, 4,700 mt, and 1,500 mt, respectively. Last year's full assessment is available on the web (Lowe et al. 2005, <http://www.afsc.noaa.gov/refm/docs/2005/GOAAtka.pdf>).

15.2 New information and projection

New catch information includes updated 2005 catch (799 mt), and 2006 catch (875 mt) as of November 4, 2006 (http://www.fakr.noaa.gov/2006/car110_goa.pdf). However, for projection purposes, catch equal to TAC (1,500 mt) is assumed.

Since the 2005 assessment, ages from the 2005 GOA survey have become available. A total of 315 otoliths were collected from 52 hauls throughout the Western and Central Gulf (Figure 1). The data continue to show that the 1999 year class dominates the age distribution (Figure 2).

There is no new information incorporated into the projection. For the 2007 fishery, we recommend an ABC of 4,700 mt. This ABC is equivalent to last year's ABC for 2006 (and 2007). The corresponding reference values for Atka mackerel are summarized below. Because Atka mackerel are managed in Tier 6, several of the values are unknown or not applicable (NA).

Tier 6	Last year's projection		This year's projection	
	<u>2006</u>	<u>2007</u>	<u>2007</u>	<u>2008</u>
$M = 0.3$	NA	NA	NA	NA
$B_{40\%}$ (mt)	NA	NA	NA	NA
Female Spawning Biomass (mt)	NA	NA	NA	NA
Maximum permissible F_{ABC}	Unknown	Unknown	Unknown	Unknown
F_{ABC}	Unknown	Unknown	Unknown	Unknown
F_{OFL}	Unknown	Unknown	Unknown	Unknown
ABC (mt, 0.75 x ave. catch 1978-95)	4,700	4,700	4,700	4,700
OFL (mt, ave. catch 1978-95)	6,200	6,200	6,200	6,200

15.3 Area apportionment

There is no area apportionment for GOA Atka mackerel. The Council manages GOA Atka mackerel on a Gulfwide basis.

15.4 Research priorities

Further research into the population structure of Atka mackerel is needed. Preliminary analyses of microsatellite DNA has provided mixed results from samples collected in the Aleutians, Gulf of Alaska and Japan. Further research is needed to understand the source of GOA Atka mackerel and the relationship to Aleutian Islands Atka mackerel. Nesting sites have been located in the Gulf of Alaska in the Shumagin Islands, and historical ichthyoplankton data from the 1970's around Kodiak Island indicate there was a spawning and nesting population even further to the east, but the source of these spawning populations is unknown. Studies to determine the linkages and impacts of environmental indicators such as temperature regime on Atka mackerel are needed. Further studies to determine whether there have been any changes in life history parameters over time (e.g. maturity-at-age, fecundity, weight- and length-at-age) would be informative. More information on Atka mackerel habitat preferences would be useful to improve our understanding of Essential Fish Habitat (EFH), and improve our assessment of the impacts to habitat due to fishing. Better habitat mapping of the Gulf of Alaska would provide information for survey stratification and the extent of trawlable and untrawlable habitat.

15.5 Summaries for the Plan Team

Species	Year	Biomass	OFL	ABC	TAC	Catch
	2005	Unknown	6,200	600	600	799
Atka mackerel	2006	Unknown	6,200	4,700	1,500	875 ¹
(Gulfwide)	2007	Unknown	6,200	4,700		
	2008	Unknown	6,200	4,700		

1/ Current as of November 4, 2006 (http://www.fakr.noaa.gov/2006/car110_goa.pdf).

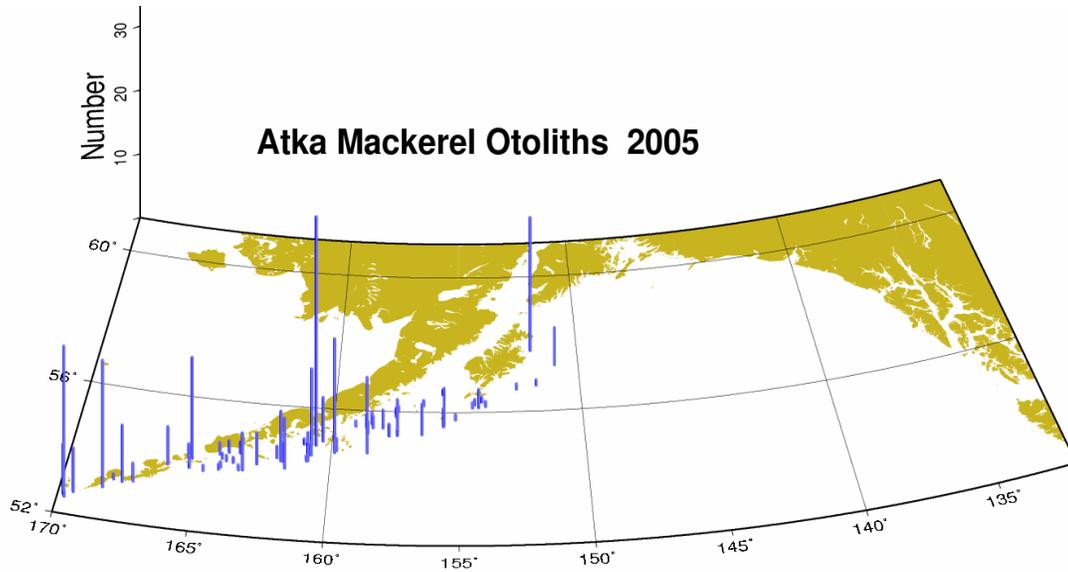


Figure 1. Distribution of Atka mackerel otolith collection from the 2005 Gulf of Alaska bottom trawl survey. Otoliths were collected from 52 hauls. Height of bars is proportional to number of otoliths taken in the haul.

2005 GOA Survey Atka Mackerel Ages

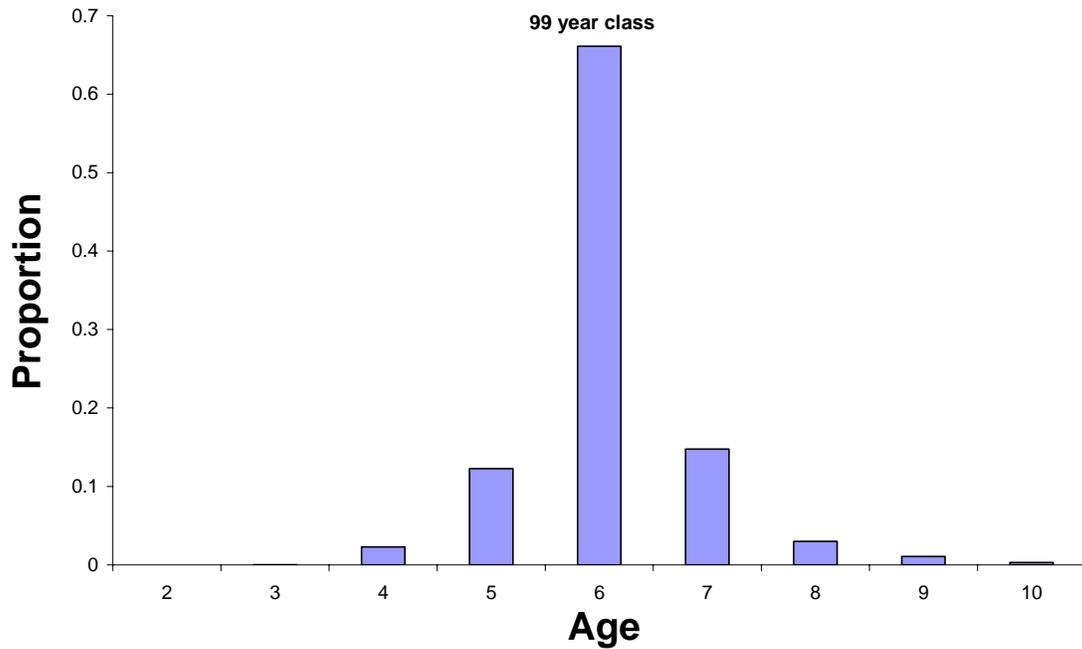


Figure 2. Age frequency distribution of Atka mackerel from the 2005 Gulf of Alaska bottom trawl survey. A total of 315 otoliths were collected and aged.

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